



Market Analysis

What Business Needs

St. Louis Region Information Technology Labor Market

Custom Research Report

Period Covered: Jan-Mar 2008

Deanna Hampton, Dan DeMaioNewton,
Jeff Quinn, & Gerard Euell

MGS Insights and Analysis

The St. Louis Regional Information Technology Labor Market Report delivers insights and analysis of Information Technology (IT) skills and competencies most in demand by St. Louis area employers to help answer the question: What does business need? This research is designed to assist key stakeholders involved in economic and workforce development, St. Louis business, educational, and employment services communities in the development of education and training programs to ensure that the region's workforce is well-prepared and equipped to meet business' IT demands.

Critical Insights

- St. Louis demand for IT talent hit a record high in Q3 2007, and has grown rapidly in Q1 2008. We anticipate that this trend will continue, barring recession, and the demand for IT workers will continue to grow through 2008.
- The rate of new resumes being posted in IT in the St. Louis region has been flat over the past 2 years, while the demand for IT talent has grown.
- Fears of recession have not negatively impacted IT job postings in the St. Louis region to date.
- Computer software engineers continue to be in high demand in the St. Louis region.
- The greatest increase in demand for the region is for Computer Hardware Engineers (+48%), Computer Software Engineers (+40%), Network & Computer Systems Administrators (+34%), Computer Software Engineers, Systems Software (+25%), and Computer Programmers (+24%)
- The greatest decrease in demand for the region is for Computer Support Specialists (-63%), Computer and IS Managers (-40%), Operations Research Analysts (-34%), and Telecom Equipment Install & Repair (-23%)

What Business Needs

- The risk of talent deficit for the St. Louis region is greatest for Computer programmers, Network system and data communication analysts, Computer hardware engineers, Network and computer system administrators, Computer software engineers, applications, and Database administrators
- The risk of talent surplus for the St. Louis region is greatest for Operations Research Analysts, and Telecommunications Equipment Installation and Repair
- Computer software engineers and Computer Software Engineers, Systems Software are in the high performance zone and demonstrate sufficient growth in both talent and jobs.
- The top computer programming occupations in demand in St. Louis are C/C++/C# Programmers, Senior ASP Developers, and JAVA Developers
- The greatest decreases in demand are for Entry Level Technical Support Representative (-84%), Senior Software Engineers (-51%), and Programmer Analyst (-40%)
- 60% of the IT opportunities in St. Louis required a bachelor's degree.
- 82% of IT opportunities in St. Louis are seeking mid-career level candidates. Only 7% seek Entry Level candidates.
- 77% of the IT opportunities in St. Louis are seeking candidates with 2 to 7 years of experience. Only 5% seek individuals with less than 1 year of experience.
- 44% of the jobs posted required communication skills.
- The majority of job postings in the St. Louis region come from staffing agencies. The region should view staffing agencies as key "matchmakers" and engage with them in strategic talent planning and initiatives.

Research Methodology

The data for this report was derived from Monster.com's jobs and resumes database for the period of January to March 2008. This period was used to provide St. Louis stakeholders with the best real-time assessment of critical IT knowledge, skills, and abilities in most-demand to assist in the development of programs to ensure the region can best meet business' IT needs.

2,313 Monster job postings matching the St. Louis Regional Chamber and Growth Association's (RCGA's) definitions for IT jobs were included in this analysis. These jobs were from postings to Monster.com in the St. Louis area – defined as a 45-mile radius around St. Louis - that matched the characteristics of the RCGA's list of 19 IT Occupations of Interest.

RCGA IT Occupations of Interest

(Standard Occupational Classifications – SOCs)

- Computer and Information Scientists, Research
- Computer and Information Systems Managers
- Computer, Automated Teller, and Office Machine Repairers
- Computer Hardware Engineers
- Computer Operators
- Computer Programmers
- Computer Software Engineers, Applications
- Computer Software Engineers, Systems Software
- Computer Specialists, All Other
- Computer Support Specialists
- Computer Systems Analysts
- Data Entry Keyers
- Database Administrators
- Network and Computer Systems Administrators
- Network Systems and Data Communications Analysts
- Operations Research Analysts
- Computer Science Teachers, Postsecondary
- Telecommunications Equipment Installers and Repairers, Except Line Installers
- Telecommunications Line Installers and Repairers

In order to assess the RCGA IT Occupations of Interest, we needed to map these occupations to the Monster Occupational Classifications (MOCs). The SOC to MOC crosswalk is included at the end of this document as Appendix A.

Monster's resume database contains more than 796,000 active resumes in the St. Louis region, with more than 11,000 new resumes added each month. An active resume is defined as a resume that has been created or updated within the past 12 months.

More than 320,000 job searches are performed on Monster.com each month for jobs in the St. Louis regional area.

Job seekers have created more than 431,000 job search agents for the St. Louis region to be proactively notified of jobs matching their interests.

St. Louis Overall Workscope

To establish the performance and demand in the IT sector in greater St. Louis, we have included the following workscape summary to contextualize IT sector demand. On a national scale, the St. Louis metropolitan area has seen payrolls grow at a consistently slower pace than the national average during the past 3+ years. The region's unemployment rate also has been higher than the national average.

While the rise in St. Louis unemployment through the first 2 months of 2008 is due in part to seasonality, the sustained breach above six percent reflects a significantly softened labor market; these levels were last seen in early-2005.

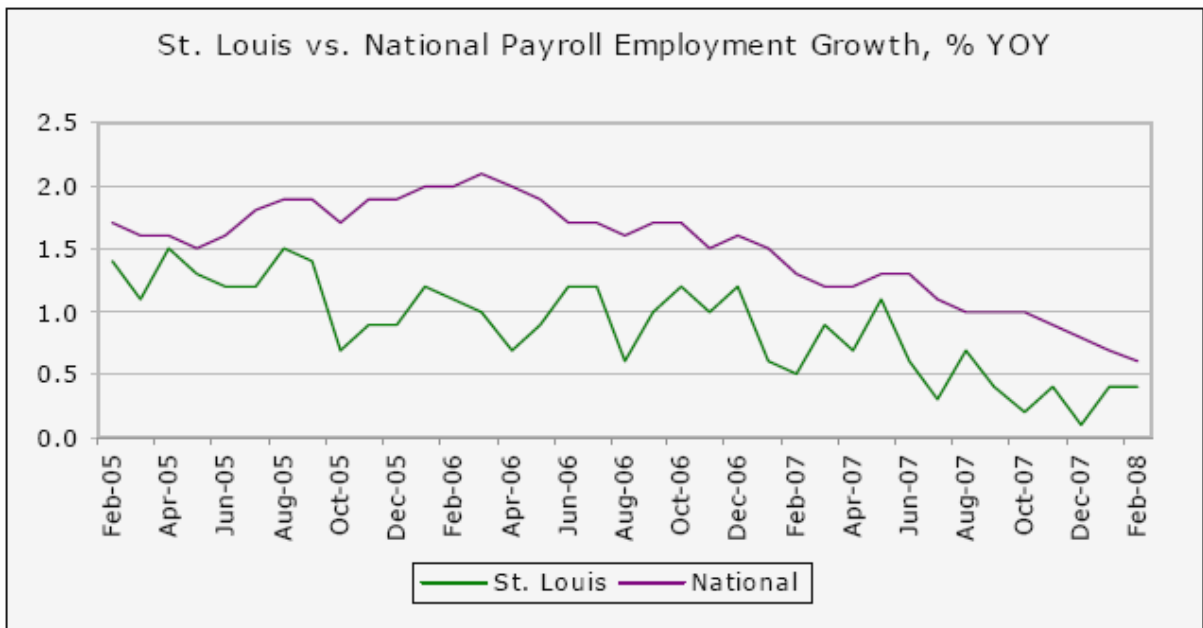


Figure 1. St. Louis' employment growth trails national average.

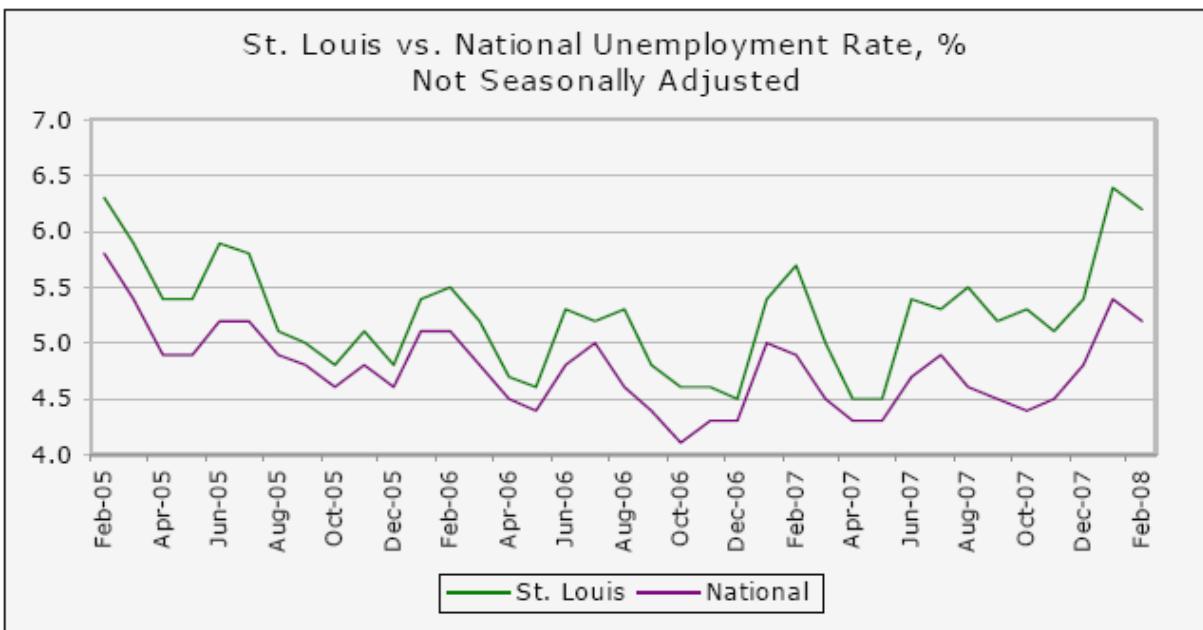


Figure 2. St. Louis' unemployment rate exceeds the national average.

What Business Needs

The number of jobs posted to Monster.com from the St. Louis region has exceeded the number of resumes posted for each monster over the past 2 years. This indicates greater demand than supply. The number of resumes has declined over the past 3 months perhaps as a result of fears of recession set in with employees. The number of postings have not matched this decline.

In the first quarter of 2008, new resumes have increased 15% over Q1 2007 as job postings show a slight moderation in activity dipping 1% over the same period.

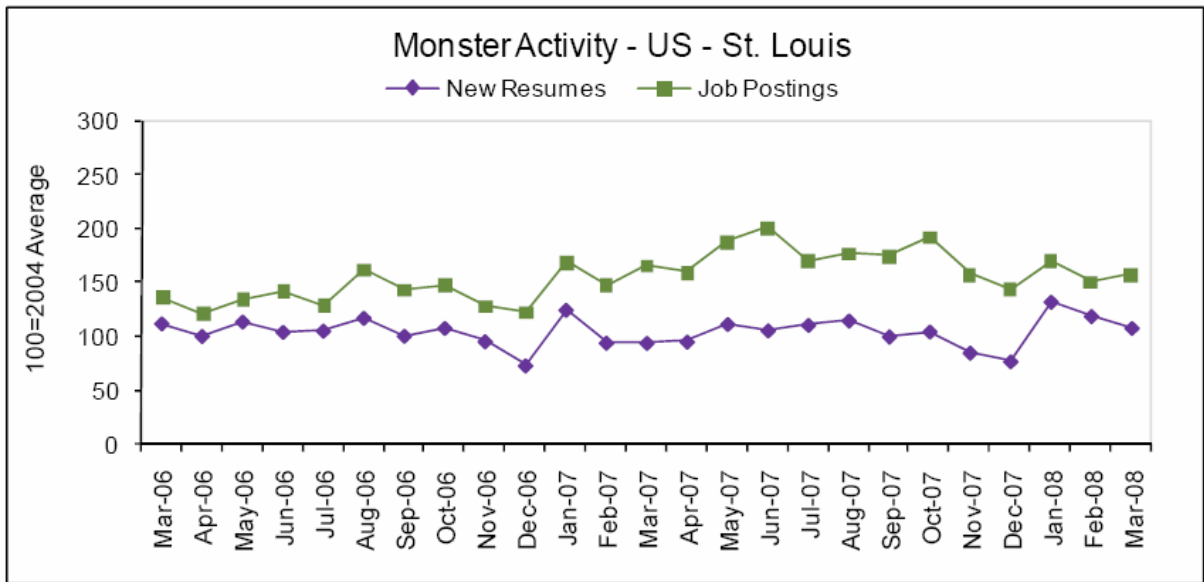


Figure 3. St. Louis' overall workspace shows consistent demand outpacing talent availability.

St. Louis Area IT Performance

The Monster Employment Index (MEI) tracks performance for overall regional workspaces drawn from over 1,500 online job sites. The MEI is one of the best indicators for job demand and is included in the workspace overview to establish the context for IT demand in the St. Louis regional area.

Overall job demand in the St. Louis market has grown substantially over the past 3 years. However, there has been almost zero net growth in the past year.

While job posting trends for the metro area's Computer and Mathematical (IT) occupations have historically followed the up/down trends of the metro area as a whole, volatility in IT recruitment activity over the past 12 months has been more tempered than for the metro area as a whole. This suggests a more conservative hiring strategy for IT talent.

The first quarter of 2008 has seen an increase in both IT and overall job postings, largely tied to consistent seasonal hiring trends. As a result, St. Louis should expect increased demand for both overall and IT recruitment in 2008

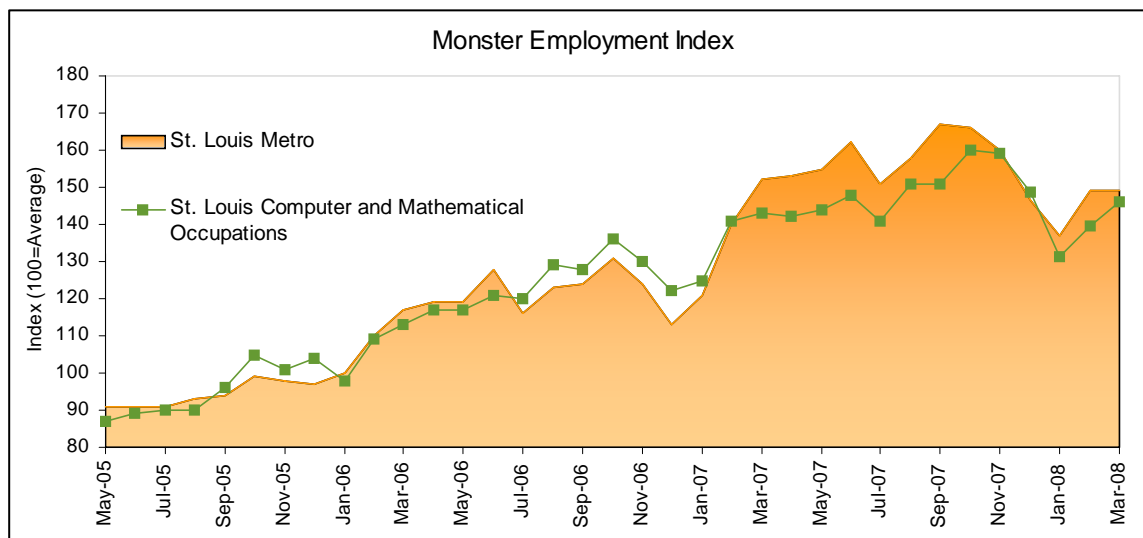


Figure 4: Demand for IT talent is at near-record high in the St. Louis region.

What Business Needs

The number of IT job postings in the St. Louis region has exceeded the number of new resumes being posted for each of the past 12 months. This indicates a demand rate higher than talent availability.

The IT resume growth has been fairly flat since 3Q06 in St. Louis, and decreased by 3% in 1Q08. However, recent months suggest a slight improvement as resumes increased by 1% and 2% year-over-year in February and March respectively.

IT job postings, on the other hand, in the St. Louis region continue an upward trajectory since 3Q06 in St. Louis rising another 8% in 1Q08. This growth is primarily due to strong posting activity in March. Fears of recession have not negatively impacted IT job postings in the St. Louis region to date.

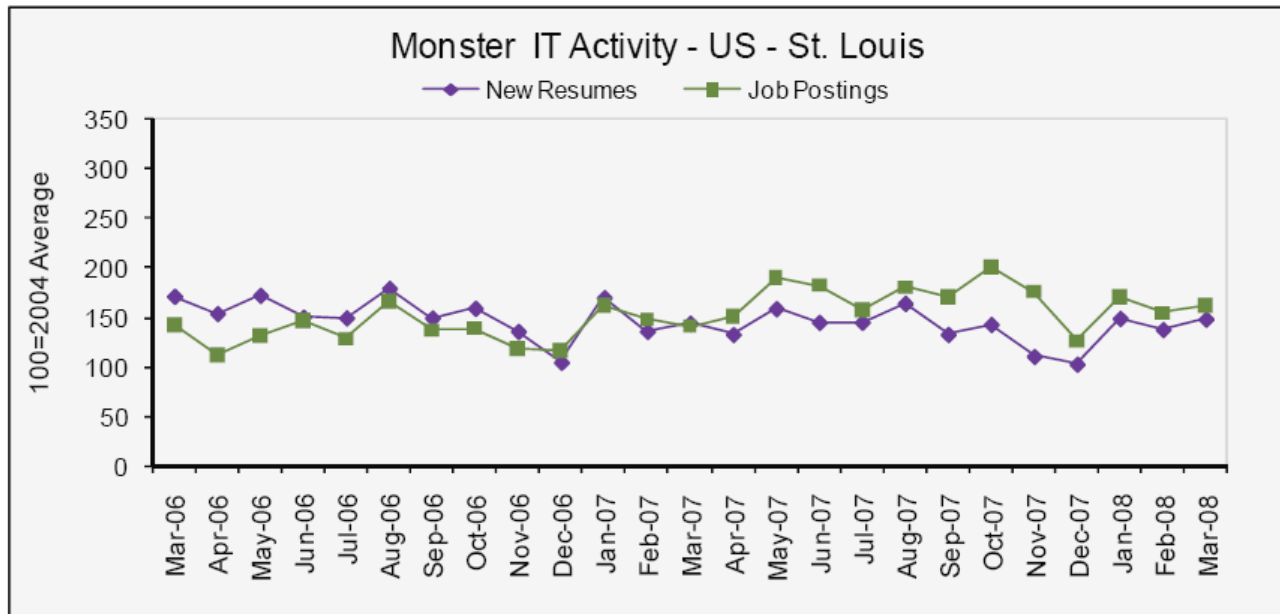


Figure 5. Job postings in IT for the St. Louis region outpace talent availability.

St. Louis Region IT Occupational Demand

The top 6 IT occupations in demand in the St. Louis region are (in order of demand):

1. Computer Software Engineers, Application (21%)
2. Computer System Analysts (15%)
3. Computer Programmers (14%)
4. Network and Computer Systems Administrators (10%)
5. Computer Software Engineers, Systems Software (7%)
6. Database Administrators (5%)

This order of demand is unchanged from the same period 2007. Demand has increased for Computer Software Engineers, Application, Computer Programmers, Network and Computer System Administrators, and Computer Software Engineers, Systems Software, and Database Administrators.

The greatest increases in demand for IT are in the following occupations:

1. Computer Hardware Engineers (+48%)
2. Computer Software Engineers (+40%)
3. Network & Computer Systems Administrators (+34%)
4. Computer Software Engineers, Systems Software (+25%)
5. Computer Programmers (+24%)
6. Network Systems and Data Communication Analysts (+17%)
7. Computer Software Engineers, Applications (+10%)

The greatest decreases in demand for IT are in the following occupations:

1. Computer Support Specialists (-63%)
2. Computer and IS Managers (-40%)
3. Operations Research Analysts (-34%)
4. Telecom Equipment Install & Repair, Except Line Installers (-23%)
5. Data Entry Keyers (-17%)

6 IT occupations in the St. Louis area reported fewer than 15 job postings in 1Q08 and did not present enough data for to draw conclusive results.

The table below summarizes occupational demand and growth rates.

IT Standard Occupations in Demand in St. Louis - Highest Volume, Q1 2008

IT Standard Occupations	% of Q107 Postings	% of Q108 Postings	YoY Change
Comp SW Eng, App	18%	21%	10%
Comp Sys Analysts	15%	15%	0%
Computer Programmers	11%	14%	27%
Network & Comp Systems Admins	7%	10%	34%
Comp SW Eng, Systems SW	5%	7%	25%
Database Administrators	5%	5%	2%
Computer Support Specialists	13%	5%	-63%
Computer and IS Managers	8%	5%	-40%
Computer Hardware Engineers	3%	4%	48%
Network Sys & Data Comm Analysts	3%	4%	17%
Telecom Equip Inst & Rep, Ex Line Inst	4%	3%	-23%
Computer Software Engineers	2%	2%	40%
Operations Research Analysts	3%	2%	-34%
Data Entry Keyers	2%	2%	-17%
Comp and IS, Research*	0.1%	0.4%	550%
Computer Operators*	0.3%	0.4%	38%
Comp, Auto Tell, & Off Mach Repairers*	0.2%	0.3%	50%
Computer Specialists, All Other*	0.4%	0.2%	-36%
Comp Science Teachers, Postsecondary*	0.1%	0.1%	100%
Telecom Line Installers & Repairers*	0.1%	0.0%	-67%

*Occupations with less than 15 available job postings within the St. Louis market

Figure 6: Summary of St. Louis regional occupational demand.

St. Louis IT Occupation Supply and Demand Analysis

Analyzing growth rates for jobs and resumes enables us to determine talent surpluses and deficits, as well as incubator and high performance occupation performance. This information is beneficial in understanding talent availability and matching available talent to businesses need.

Several IT occupations in the St. Louis region are at risk for talent deficits.

IT occupations at highest risk for talent deficiency in order of greatest risk are:

1. Computer programmers
2. Network system and data communication analysts
3. Computer hardware engineers
4. Network and computer system administrators
5. Computer software engineers, applications
6. Database administrators

IT occupations with a talent surplus in order of the greatest surplus are:

1. Operations Research Analysts
2. Telecommunications Equipment Installation and Repair

Computer and IS Managers and Data Entry Keyers are on the cusp of talent surplus. Economic development should focus on this occupation to improve job opportunities.

Database Administrators and Computer System Analysts are on the cusp for talent deficits. Workforce development should focus on identifying and creating talent to meet business' need for these occupations.

Computer software engineers and Computer Software Engineers, Systems Software are in the high performance zone and demonstrate sufficient growth in both talent and jobs. Efforts should be made to continue this high performance.

St. Louis Regional IT Labor Market Supply and Demand

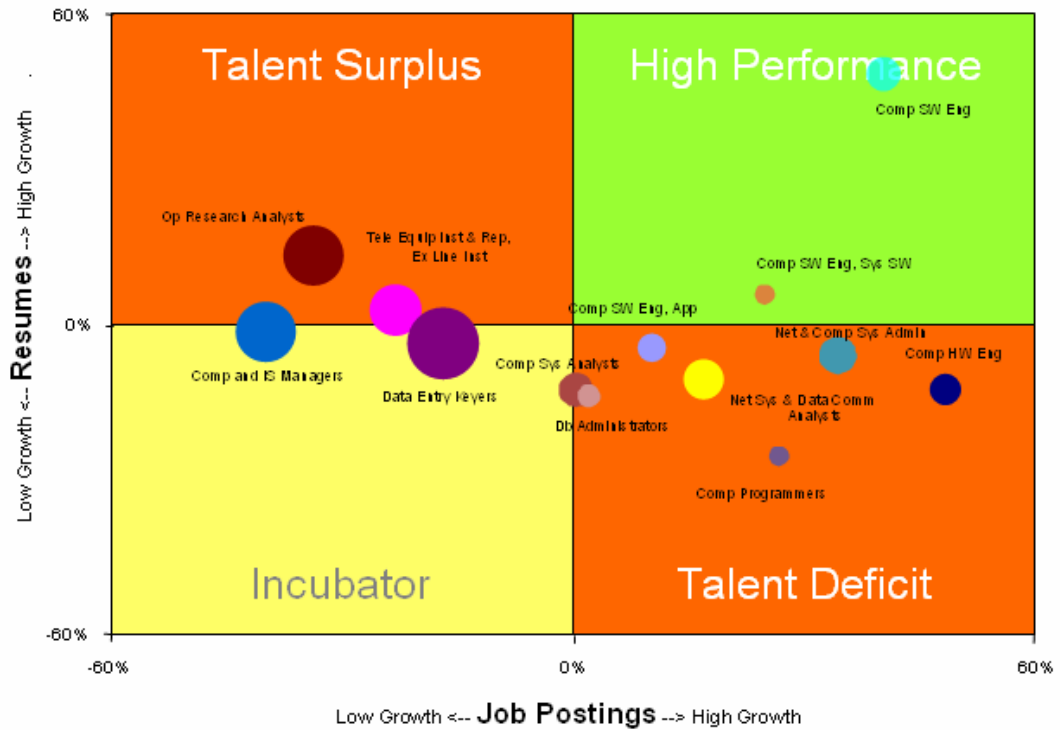


Figure 7. Summary of St. Louis IT Occupational Supply and Demand Performance.

St. Louis IT Job Titles

We examined the job titles of over 2,300 jobs posted in IT on Monster.com for the Jan-Mar 2008 period to determine the job titles in highest demand.

Business Systems Analysts were the job title with the highest demand in 1Q08, and rose 22% year-over-year. Three of the top four job titles were for computer programmer roles with a cumulative increase year-over-year of 148%, followed by technical support specialists, which dropped a cumulative -84% year-over-year.

The top computer programming job titles in demand in St. Louis are:

1. C/C++/C# Programmers
2. Senior ASP Developers
3. JAVA Developers

The greatest increases among the largest job titles in demand in St. Louis were for:

1. Entry-level JAVA Developers (+208%)
2. Telecommunications Technicians (+164%)
3. Senior ASP Developers (+121%)
4. Software Quality Assurance Engineer (+84%)
5. PC Technician (+76%)
6. Technical Support Engineer (+76%)

The greatest decreases in demand are for the following job titles:

1. Entry Level Technical Support Representative (-84%)
2. Senior Software Engineer (-51%)
3. Programmer Analyst (-40%)

Top 20 Monster Occupations in Demand - Highest Vol., St. Louis, 1Q08

Rank	Monster Occupations	YoY Change
1	Business Systems Analyst	22%
2	C/C++ Programmer	-12%
3	Sr. ASP Developer	121%
4	Java Developer	39%
5	Technical Support Representative - Entry Level	-84%
6	Technical Support Specialist	-2%
7	Information Systems Shift Supervisor	-13%
8	Software Engineer	-6%
9	Software Quality Assurance Engineer	73%
10	Sr. Programmer Analyst	-4%
11	Java Developer - Entry Level	208%
12	Telecommunications Technician	164%
13	Data Warehouse Developer	84%
14	Sr. Software Engineer	-51%
15	Systems Integration Engineer	62%
16	Sr. Systems Analyst	3%
17	Web Applications Developer	18%
18	PC Technician	76%
19	Technical Support Engineer	76%
20	Programmer Analyst	-40%

Figure 8: Top IT Job Titles in Demand in St. Louis

The top computer programmers in demand are C/C++/C#, ASP, JAVA, AS/400 and Visual Basic.

Top Computer Programmers in Demand - Highest Vol., St. Louis, 1Q08

Rank	Monster Occupations	% of Q108 Postings	YoY Change
1	C/C++ Programmer	23%	-12%
2	Sr. ASP Developer	23%	121%
3	Java Developer	19%	39%
4	Java Developer - Entry Level	9%	208%
5	AS/400 Programmer Analyst	6%	0%
6	Sr. Visual Basic Programmer	4%	-33%

*Occupations with less than 15 available job postings within the St. Louis market were excluded

Figure 9: Top Programmer Job Titles in Demand in St. Louis

St. Louis IT Educational Requirements

60% of the IT opportunities in St. Louis required a bachelor’s degree. 1% required a Masters degree. 7% required an Associates degree, and 15% required high school or equivalent education.

With the exception of computer support specialists, network & computer systems administrators, telecom equipment installers and repairers, except line installers and data entry keyers the majority of IT occupations require at least a bachelor’s degree.

Operations research analysts required the most advanced education, with 10% of the opportunities requiring a Masters degree.

Data Entry Keyers and Telecom Equipment Installation and Repair required the highest percentage of High School or equivalent education.

74% of IT job postings in St. Louis did not report a required education level and were not included in the education requirement analysis.

The table below summarizes educational requirements by occupation.

Education Level Requirement of IT Candidates on Monster - St. Louis, 1Q08

Job Posting Education Requirement	Masters Degree	Bachelors Degree	Associate Degree	Some College Coursework	High School or equivalent	Some HS Coursework	Professional	Certification	Vocational
All IT Job Postings	1%	60%	7%	8%	15%	0%	4%	4%	1%
Comp SW Eng, App	3%	73%	5%	5%	8%	0%	5%	1%	0%
Comp Sys Analysts	0%	60%	5%	6%	17%	0%	8%	4%	0%
Computer Programmers	0%	65%	7%	14%	12%	0%	1%	0%	0%
Network & Comp Systems Admins	1%	42%	13%	8%	24%	0%	3%	10%	0%
Comp SW Eng, Systems SW	0%	87%	4%	0%	6%	2%	0%	2%	0%
Database Administrators	0%	67%	12%	2%	14%	0%	5%	0%	0%
Computer Support Specialists	0%	32%	20%	24%	15%	0%	2%	7%	0%
Computer and IS Managers	6%	53%	2%	4%	20%	0%	6%	6%	4%
Computer Hardware Engineers	0%	77%	0%	0%	8%	0%	0%	12%	4%
Network Sys & Data Comm Analysts	0%	72%	11%	6%	0%	0%	6%	6%	0%
Telecom Equip Inst & Rep. Ex Line Inst	0%	3%	6%	21%	47%	0%	3%	6%	15%
Computer Software Engineers	0%	100%	0%	0%	0%	0%	0%	0%	0%
Operations Research Analysts	10%	70%	0%	0%	20%	0%	0%	0%	0%
Data Entry Keyers	0%	38%	0%	0%	63%	0%	0%	0%	0%

*Occupations with less than 15 available job postings within the St. Louis market were excluded

Figure 10: Educational Requirements by IT Occupation

St. Louis IT Career Level Requirements

82% of IT opportunities in St. Louis are seeking mid-career level candidates. Only 7% seek Entry Level candidates.

With the exception of computer support specialists the majority of IT occupations are seeking mid-career level candidates in St. Louis. Computer and information systems management opportunities are also looking for a higher percentage of experienced managers compared to all other occupations in St. Louis.

50% of the Computer Support Specialist positions sought entry level talent. There were very few opportunities for high sc

25% of IT job postings in St. Louis did not specify a career level and were not included in the career level analysis.

The table below summarizes experience requirements by occupation:

Career Level Desired of IT Candidates on Monster - St. Louis, 1Q08

Job Posting Education Requirement	Senior Executive	Executive	Management	Mid Career	Entry Level	Student (under/graduate)	Student (HS)
All IT Job Postings	0%	0%	10%	82%	7%	0%	0%
Comp SW Eng, App	0%	0%	8%	88%	3%	0%	0%
Comp Sys Analysts	0%	0%	10%	82%	7%	0%	1%
Computer Programmers	0%	0%	4%	92%	3%	0%	0%
Network & Comp Systems Admins	0%	0%	7%	85%	9%	0%	0%
Comp SW Eng, Systems SW	0%	0%	9%	86%	5%	0%	0%
Database Administrators	0%	0%	11%	85%	4%	0%	0%
Computer Support Specialists	0%	0%	6%	43%	50%	0%	1%
Computer and IS Managers	0%	2%	37%	56%	5%	0%	0%
Computer Hardware Engineers	0%	1%	11%	83%	5%	0%	0%
Network Sys & Data Comm Analysts	0%	1%	22%	71%	3%	0%	2%
Telecom Equip Inst & Rep, Ex Line Inst	0%	2%	5%	80%	7%	2%	4%
Computer Software Engineers	0%	0%	14%	86%	0%	0%	0%
Operations Research Analysts	0%	0%	5%	83%	7%	5%	0%
Data Entry Keyers	0%	0%	3%	73%	22%	0%	3%

*Occupations with less than 16 available job postings within the St. Louis market were excluded

Figure 11. Summary of experience requirements by occupation.

St. Louis IT Experience Requirements

77% of the IT opportunities in St. Louis are seeking candidates with 2 to 7 years of experience. Only 5% seek individuals with less than 1 year of experience.

Computer support specialists, telecommunications equipment installers and repairers, and operations research analysts require less experience than other IT occupations and represent a good area for job seekers to enter the marketplace.

Computer and information systems management opportunities require more experience than other IT occupations and represent career paths for job seekers.

67% of IT job postings in St. Louis did not specify years of experience needed and were not included in the experience level analysis.

The table below summarizes experience required by IT occupation:

Years of Experience Desired of IT Candidates on Monster - St. Louis, 1Q08

Job Posting Education Requirement	Less than 1 Year	1+ to 2 Years	2+ to 5 Years	5+ to 7 Years	7+ to 10 Years	10+ to 15 Years	More than 15 Years
All IT Job Postings	5%	11%	49%	28%	4%	2%	1%
Comp SW Eng, App	1%	6%	49%	37%	3%	3%	1%
Comp Sys Analysts	5%	12%	48%	29%	4%	2%	0%
Computer Programmers	9%	7%	56%	26%	2%	0%	0%
Network & Comp Systems Admins	6%	11%	50%	25%	5%	3%	0%
Comp SW Eng, Systems SW	3%	0%	54%	35%	7%	0%	1%
Database Administrators	2%	11%	63%	23%	2%	0%	0%
Computer Support Specialists	16%	28%	53%	2%	0%	0%	0%
Computer and IS Managers	2%	17%	33%	23%	10%	15%	0%
Computer Hardware Engineers	0%	3%	55%	31%	10%	0%	0%
Network Sys & Data Comm Analysts	0%	6%	33%	40%	8%	8%	4%
Telecom Equip Inst & Rep, Ex Line Inst	14%	32%	43%	11%	0%	0%	0%
Computer Software Engineers	0%	0%	58%	42%	0%	0%	0%
Operations Research Analysts	15%	23%	31%	15%	15%	0%	0%
Data Entry Keyers	7%	29%	43%	14%	7%	0%	0%

*Occupations with less than 15 available job postings within the St. Louis market were excluded

Figure 12. Summary of Experience Requirements by IT Occupation.

St. Louis IT Job Postings by Company

Below are the top 30 companies posting jobs for IT candidates in St. Louis in order based on number of job postings:

1. TEKsystems
2. Kforce Professional Staffing
3. Deloitte
4. Spherion
5. COMSYS
6. Ajilon Consulting
7. MRINetwork
8. Yoh IT
9. Belcan Services Group Ltd. Partnership
10. Clearwire
11. Modis, Inc.
12. MATRIX Resources
13. Manpower Professional
14. Robert Half International
15. Edward Jones
16. Aerotek
17. MasterCard Worldwide
18. CyberCoders
19. SyllogisTeks
20. NetEffects, Inc.
21. Kelly IT Resources
22. Scottrade, Inc.
23. Covidien
24. CDI Corporation
25. Maxim Healthcare
26. Volt Services
27. Idea Integration
28. UnitedHealth Group
29. Citi
30. Enterprise Rent-A-Car

St. Louis Top Hard Skills in Demand

We analyzed the job text to extract out key skills in demand. Development, design, server, and networking were the top hard skills in demand.

St. Louis IT Hard Skills

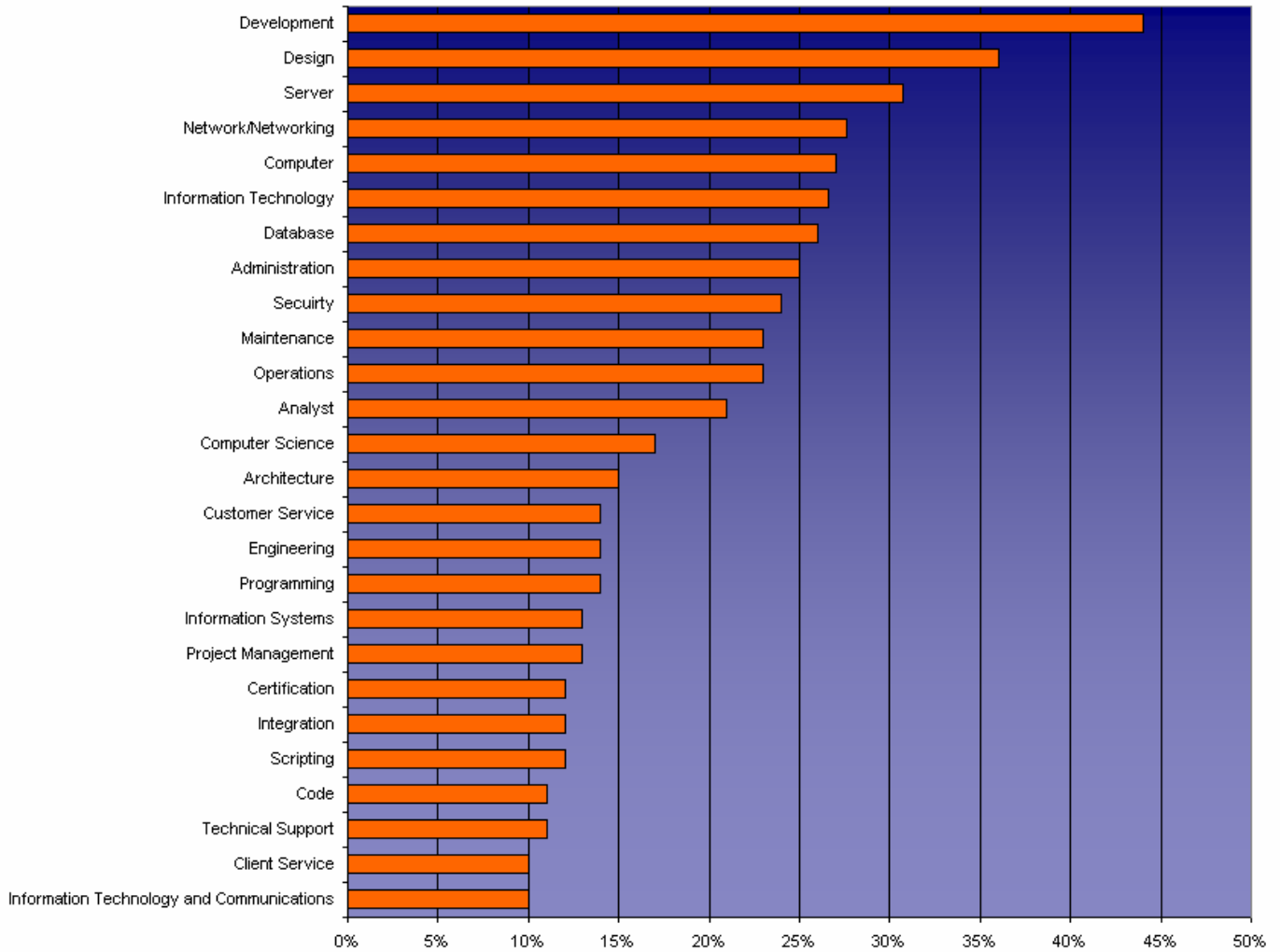


Figure 13: St. Louis Region IT Hard Skills in Demand reveal that development, design and server skills are in highest demand.

What Business Needs

Below are the top hard skills required by employers for IT jobs in the St. Louis area.

Rank	Hard Skills	%
1	Development	44%
2	Design	36%
3	Server	31%
4	Network/Networking	28%
5	Information Technology	27%
6	Computer	27%
7	Database	26%
8	Administration	25%
9	Security	24%
10	Maintenance	23%
11	Operations	23%
12	Analyst	21%
13	Computer Science	17%
14	Architecture	15%
15	Programming	14%
16	Engineering	14%
17	Customer Service	14%
18	Project Management	13%
19	Information Systems	13%
20	Certification	12%
21	Integration	12%
22	Scripting	12%
23	Code	11%
24	Technical Support	11%
25	Client Service	10%
26	Information Technology and Communications	10%
27	Software Development	9%
28	Operating Systems	9%
29	Engineer	8%
30	Upgrades	8%
31	Business Analyst	7%
32	Telecommunications	7%
33	DBA	7%
34	Data Warehouse	6%
35	PC	5%
36	Information Technology Professional	5%
37	Management Systems	5%
38	Interfaces	5%
39	Application Development	5%
40	Technology Services	5%
41	Storage	5%
42	Disaster Recovery	5%

St. Louis Key IT Technologies in Demand

We analyzed the job text to extract out key technologies in demand. SQL, Microsoft, Windows, Oracle, UNIX and JAVA are the top technologies in demand across all job postings.

St. Louis IT Key Technologies

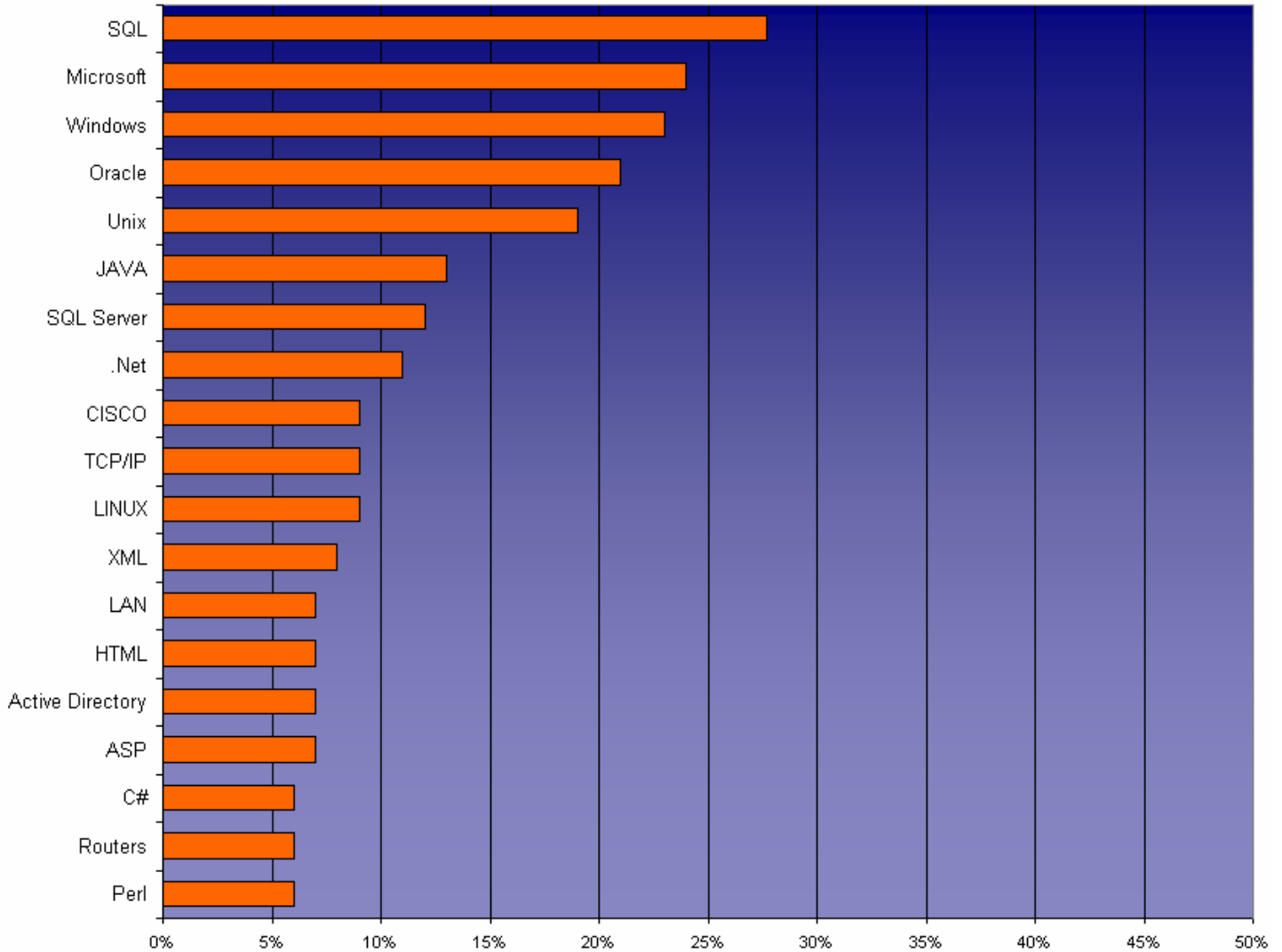


Figure 14: St. Louis regional technologies in highest demand include SQL, Microsoft, Windows, Oracle, and UNIX skills.

What Business Needs

St. Louis Regional Information Technology Labor Market Research

Jan-Mar 2008

Below are the top technologies required by employers for IT jobs in the St. Louis area.

Rank	Key Technology	%
1	SQL	28%
2	Microsoft	24%
3	Windows	23%
4	Oracle	21%
5	Unix	19%
6	JAVA	13%
7	SQL Server	12%
8	.Net	11%
9	LINUX	9%
10	TCP/IP	9%
11	CISCO	9%
12	XML	8%
13	ASP	7%
14	Active Directory	7%
15	HTML	7%
16	LAN	7%
17	Perl	6%
18	Routers	6%
19	C#	6%
20	Windows Server	5%
21	Microsoft Office	5%
22	Firewalls	5%
23	VB	5%
24	SAP	5%
25	HP	5%
26	WAN	5%
27	Solaris	5%
28	Shell	5%
29	MS SQL	4%
30	Microsoft Windows	4%
31	Oracle Database	3%
32	MS SQL Server	3%
33	Shell Scripting	3%
34	Stored Procedures	3%
35	Object Oriented	3%
36	Business Objects	3%
37	Web Services	3%

St. Louis Key IT Soft Skills and Activities

The table below summarizes key soft skills and core activities to be performed by job seekers across the IT sector. This information may be useful in developing holistic curriculum for flexible talents in a rapidly evolving IT landscape.

Support/Supporting, Communications Skills and Service are the top 3 soft skills/activities mentioned in St. Louis IT jobs.

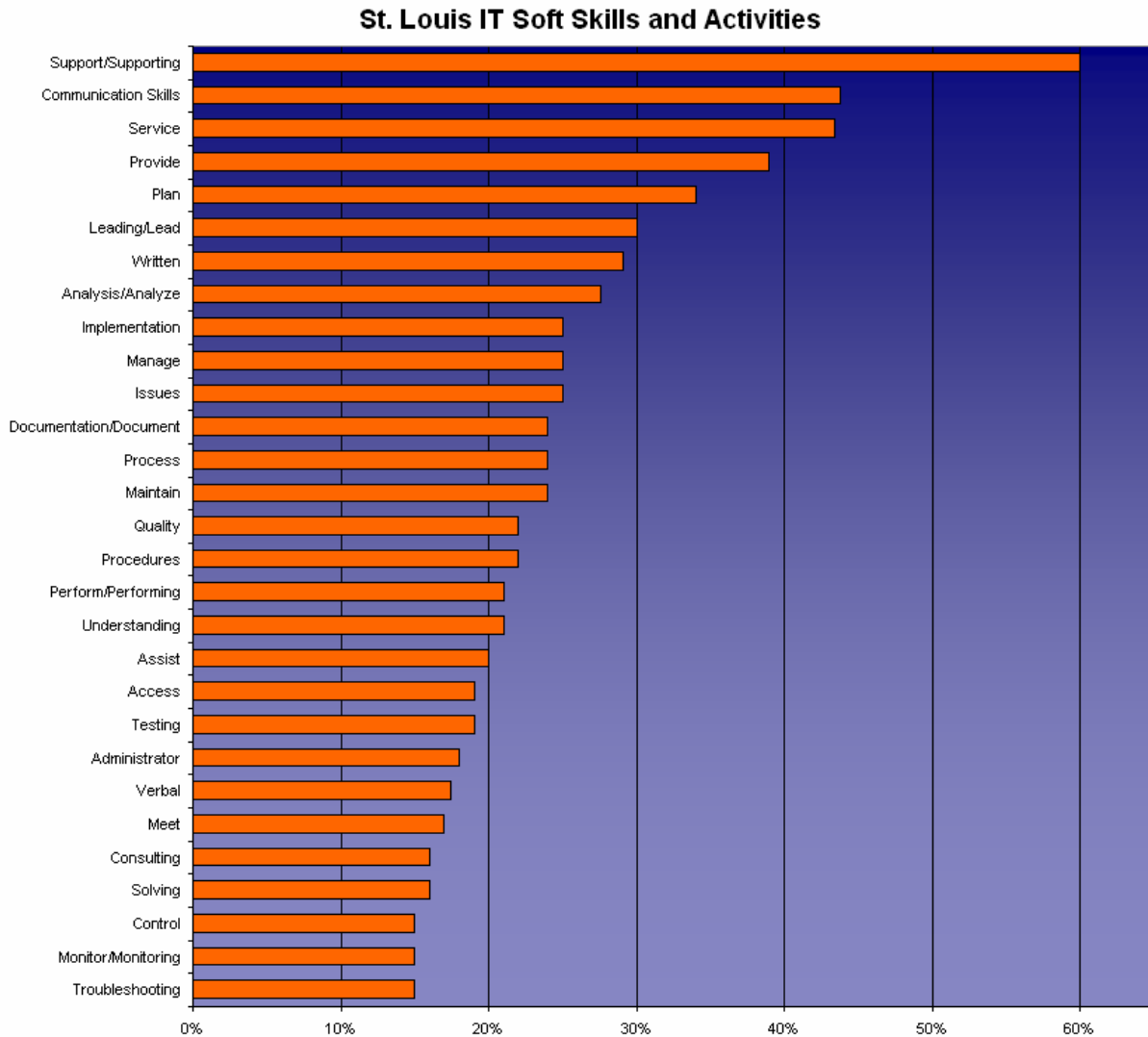


Figure 15: St. Louis regional IT Soft Skills and Activities in Demand include Support, Communications skills, and Service.

What Business Needs

The table below summarizes the key soft skills and activities requires of IT candidates.

Rank	Key Technology	% of Jobs	Rank	Key Technology	% of Jobs
1	Support/Supporting	60%	27	Troubleshooting	15%
2	Communication Skills	44%	28	Monitor/Monitoring	15%
3	Service	43%	29	Control	15%
4	Provide	39%	30	Interpersonal	14%
5	Plan	34%	31	Concepts	14%
6	Leading/Lead	30%	32	Create	14%
7	Written	29%	33	Detemine	13%
8	Analysis/Analyze	28%	34	Resolution	13%
9	Issues	25%	35	Installation	13%
10	Manage	25%	36	Written Communication	13%
11	Implementation	25%	37	Working Knowledge	13%
12	Maintain	24%	38	Identify	13%
13	Process	24%	39	Coordinate	12%
14	Documentation/Document	24%	40	Participate	12%
15	Procedures	22%	41	Serve	12%
16	Quality	22%	42	Leader/Leadership	11%
17	Understanding	21%	43	Problem Solving	11%
18	Perform/Performing	21%	44	Learn	11%
19	Assist	20%	45	Independently	11%
20	Testing	19%	46	Deploying	11%
21	Access	19%	47	Change	11%
22	Administrator	18%	48	Satisfy	10%
23	Verbal	17%	49	Passionate	10%
24	Meet	17%	50	Review	10%
25	Solving	16%	51	Improve	10%
26	Consulting	16%			

St. Louis Key IT Key Words

While examining the key words in the job bodies posted by St. Louis area employers, we have highlighted some key words and the % of jobs in which they appear to assist in the deeper analysis of what employers want.

Rank	Key Words	%
1	Technical	60%
2	Information	56%
3	Knowledge	55%
4	Systems	55%
5	Management	54%
6	Business	52%
7	Services	52%
8	Technology	48%
9	Software	39%
10	Solutions	35%
11	Application	34%
12	Data	34%
13	Applications	33%
14	Customer	29%
15	Clients	21%
16	Standards	18%
17	Enterprise	18%
18	People	17%
19	Products	17%
20	Complex	16%
21	Specifications	16%
22	Configuration	16%
23	Hardware	16%
24	Financial	15%
25	Goals	13%
26	Expert	12%
27	Compliance	12%
28	Great	11%
29	Superior	11%
30	Practices	10%
31	Constant	10%
32	Solid	10%
33	Precise	10%
34	Results	10%
35	Success	10%

St. Louis IT Job Postings by Employer Size

More than half of the IT job postings came from Staffing Agencies. Staffing agencies are a key stakeholder in the IT talent pipeline in St. Louis and should be viewed as a strategic partner. With the exception of staffing agencies, job postings were highest for medium-sized businesses (18%), followed by large businesses (16%), then small businesses (13%).

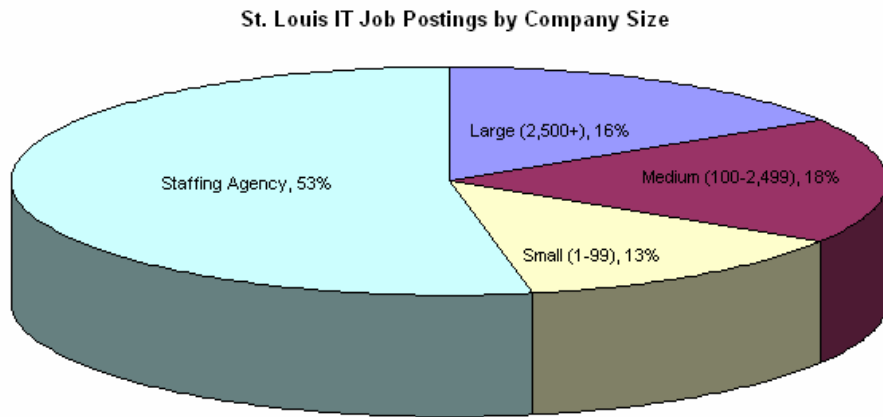


Figure 16: Staffing agencies represented more than half of all job postings.

Company Size (# of Employees)	% of Jobs
Large (2,500+)	16%
Medium (100-2,499)	18%
Small (1-99)	13%
Staffing Agencies	53%

St. Louis IT Job Postings by Employer Type

As with job postings by company size, more than half of the IT job postings came from Staffing Agencies, followed by business (46%). One percent of postings came from Non-Profit organizations and government organizations.

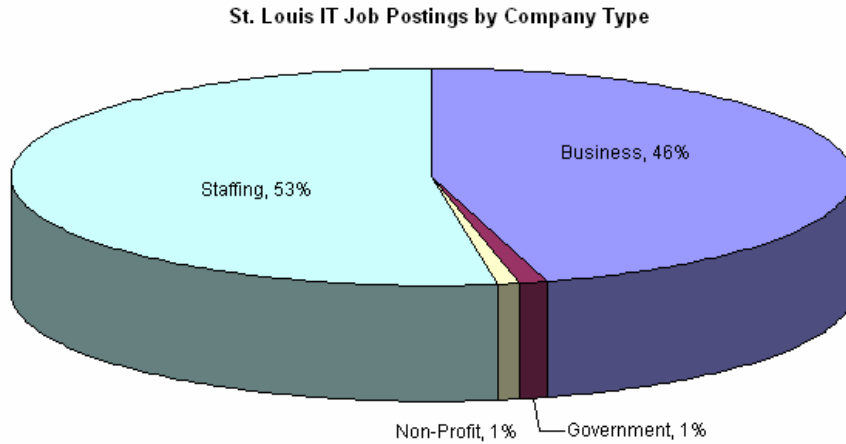


Figure 17: Business represented 46% of all job postings.

Company Type	% of Jobs
Business	46%
Government	1%
Non-Profit	1%
Staffing Agencies	53%

Essential Guidance

This research summarizes the state of St. Louis research for Q1 2008. On the surface level, it appears that the state of IT demand in the St. Louis region is healthy; our research indicates several opportunities for the region to increase performance, as well as several challenges to ensuring an adequate talent supply chain moving forward. It is encouraging to see that the region is focusing attention on these issues to ensure that the region continues to develop a talent pipeline to meet businesses needs and help citizens advance their careers.

Actions to Consider

- **Include Staffing Agencies in Workforce Development and Economic Development initiatives.** Staffing agencies are key stakeholders in the talent matching process. By including them in the development of programs and curriculum they can make significant contributions to the development of the talent pipeline. In addition, there is more that staffing agencies should be encouraged to deliver to contribute to growing the IT talent supply in the St. Louis region.
- **Focus on the development of multidisciplinary skills.** Our analysis of key skills- both hard and soft - indicate that employers seek talent that possesses more than a single value to the organization. We see the St. Louis region following the rest of the country in moving towards a knowledge economy where employees are expected to have a variety of skills across multiple disciplines, including business, technical, facilitative, and logistical. Of particular attention should be the development of oral and written communications skills for IT talent, as well as leadership, planning, and team management skills.
- **Reduce the barriers to entering IT occupations.** There were only 2 occupations available to entry-level IT professionals – Telecommunications installation, and Customer Support Help Desk. Neither of these occupations typically offers a career path into more advanced positions in IT. St. Louis employers seek experienced talent with a bachelor's degree. There is a key opportunity for the region to develop programs for workforce re-entrants (especially women re-entering the workforce after child raising and transitioning military personnel), mid-career crossovers (if the region can create programs to overcome "tin handcuffs" pay cuts for crossovers), and student internships/apprenticeships/service projects to ensure students have practical experience upon leaving college.
- **Develop programs now to retain and engage older workers.** We are on the cusp of a massive talent crisis in the United States that will first appear as a skills shortage - then become a worker shortage, as the baby boomers enter retirement. Business, government, education, and staffing agencies in the St. Louis region should prepare now to create new programs and incentives to create a flexible work environment that permits older workers to cruise into retirement, remain engaged in the workforce, work part time, and/or remain consultants with their organizations.

Appendix A: Standard Occupation Classifications Mapping to Monster Occupational Classifications

In order to analyze the St. Louis IT Job Posting data, we needed to map the Monster Occupational classifications (MOCs) to the generally-accepted Standard Occupational Classifications (SOCs). The crosswalk table below shows how these mappings were made.

Standard Occupation:	Monster Occupation:
Computer and Information Scientists, Research	Firmware Engineer
Computer and Information Systems Managers	Computer, IT, and Mathematical Management, Other
Computer and Information Systems Managers	Director - Wireless Operations
Computer and Information Systems Managers	Director-Bioinformatics
Computer and Information Systems Managers	E-Commerce Director
Computer and Information Systems Managers	E-Commerce Operations Manager
Computer and Information Systems Managers	Information Architecture Manager
Computer and Information Systems Managers	Information Systems Manager
Computer and Information Systems Managers	Information Systems Manager - Manufacturing
Computer and Information Systems Managers	Information Systems Vice-President
Computer and Information Systems Managers	Information Technology Manager
Computer and Information Systems Managers	Information Technology Project Manager
Computer and Information Systems Managers	IT Operations Manager
Computer and Information Systems Managers	Research and Development Director - Software
Computer and Information Systems Managers	Software Quality Assurance Director
Computer and Information Systems Managers	Systems and Programming Manager
Computer and Information Systems Managers	Technical Services Vice-President
Computer and Information Systems Managers	UNIX Systems Manager
Computer Hardware Engineers	Digital Board Design Engineer
Computer Hardware Engineers	Fiber Optic Application Engineer
Computer Hardware Engineers	Hardware Engineer
Computer Hardware Engineers	Hardware Test Engineer
Computer Hardware Engineers	Optical Engineer
Computer Hardware Engineers	Quality Assurance Networking Test Engineer
Computer Hardware Engineers	RF Design Engineer
Computer Hardware Engineers	Sr. ASIC Design Engineer
Computer Hardware Engineers	Sr. Hardware Engineer
Computer Hardware Engineers	Systems Integration Engineer
Computer Hardware Engineers	Telecommunications Network Engineer
Computer Hardware Engineers	Video Engineer
Computer Operators	Computer Operations Group Leader
Computer Operators	Computer Operator
Computer Operators	Sr. Computer Operator
Computer Programmers	AS/400 Programmer Analyst
Computer Programmers	ASP Developer
Computer Programmers	C/C++ Programmer

What Business Needs

Standard Occupation:	Monster Occupation:
Computer Programmers	HTML Developer
Computer Programmers	Java Developer
Computer Programmers	Java Developer - Entry Level
Computer Programmers	Lead ASP Developer
Computer Programmers	Lisp Programmer
Computer Programmers	MS Access/Visual Basic Database Developer
Computer Programmers	Programmer
Computer Programmers	Programmer - Entry Level
Computer Programmers	Sr. ASP Developer
Computer Programmers	Sr. Programmer
Computer Programmers	Sr. Visual Basic Programmer
Computer Programmers	Visual Basic/ASP Programmer
Computer Programmers	Web Producer
Computer Software Engineers	Lead Software Quality Assurance Engineer
Computer Software Engineers	Software Change Control Specialist
Computer Software Engineers	Software Development, Other
Computer Software Engineers	Software Quality Assurance Engineer
Computer Software Engineers, Applications	Account Support Analyst
Computer Software Engineers, Applications	Applications Engineer
Computer Software Engineers, Applications	Baan Integration Engineer
Computer Software Engineers, Applications	Business Intelligence Implementation Consultant
Computer Software Engineers, Applications	Client/Server Programmer
Computer Software Engineers, Applications	Computer Support Specialist - Educational Curriculum
Computer Software Engineers, Applications	Consulting Project Manager - Software
Computer Software Engineers, Applications	Data Conversion Consultant
Computer Software Engineers, Applications	Data Conversion Project Manager
Computer Software Engineers, Applications	Data Delivery Engineer
Computer Software Engineers, Applications	Data Integration Developer
Computer Software Engineers, Applications	Data Modeler
Computer Software Engineers, Applications	Data Warehouse Developer
Computer Software Engineers, Applications	Data Warehouse Information Architect
Computer Software Engineers, Applications	E-Commerce Functional Analyst
Computer Software Engineers, Applications	E-Commerce Integration Consultant
Computer Software Engineers, Applications	E-Commerce Intelligence Consultant
Computer Software Engineers, Applications	Java Architect
Computer Software Engineers, Applications	Lead Applications Engineer
Computer Software Engineers, Applications	Lead Data Conversion Consultant
Computer Software Engineers, Applications	Lead Data Modeler
Computer Software Engineers, Applications	Lead Data Warehouse Developer
Computer Software Engineers, Applications	Lead J.D. Edwards Integration Engineer
Computer Software Engineers, Applications	Lead Oracle Integration Engineer
Computer Software Engineers, Applications	Lead SAP Integration Engineer
Computer Software Engineers, Applications	Lead Technical Integration Consultant

What Business Needs

Standard Occupation:	Monster Occupation:
Computer Software Engineers, Applications	Oracle Applications Programmer
Computer Software Engineers, Applications	Oracle Integration Engineer
Computer Software Engineers, Applications	PeopleSoft Financials Engineer
Computer Software Engineers, Applications	PeopleSoft HRMS Engineer
Computer Software Engineers, Applications	Programmer Analyst
Computer Software Engineers, Applications	SAP Integration Engineer
Computer Software Engineers, Applications	Server Software Engineer
Computer Software Engineers, Applications	Software Engineer
Computer Software Engineers, Applications	Software Project Manager
Computer Software Engineers, Applications	Software Quality Assurance Engineer - Web Production
Computer Software Engineers, Applications	Sr. Applications Engineer
Computer Software Engineers, Applications	Sr. Business Intelligence Implementation Consultant
Computer Software Engineers, Applications	Sr. Data Modeler
Computer Software Engineers, Applications	Sr. Data Warehouse Developer
Computer Software Engineers, Applications	Sr. Data Warehouse Information Architect
Computer Software Engineers, Applications	Sr. ERP Integration Engineer
Computer Software Engineers, Applications	Sr. Oracle Integration Engineer
Computer Software Engineers, Applications	Sr. Oracle Applications Programmer
Computer Software Engineers, Applications	Sr. Programmer Analyst
Computer Software Engineers, Applications	Sr. SAP Integration Engineer
Computer Software Engineers, Applications	Sr. Siebel Integration Engineer
Computer Software Engineers, Applications	Sr. Software Engineer
Computer Software Engineers, Applications	Sr. Technical Integration Consultant
Computer Software Engineers, Applications	Sr. Web Applications Developer
Computer Software Engineers, Applications	Sr. Web Site Designer
Computer Software Engineers, Applications	Technical Consulting Manager
Computer Software Engineers, Applications	Web Applications Developer
Computer Software Engineers, Applications	Web Applications Developer - Entry Level
Computer Software Engineers, Applications	Web Applications Quality Assurance Engineer
Computer Software Engineers, Applications	Web Site Designer
Computer Software Engineers, Applications	Web User Interface Designer
Computer Software Engineers, Systems Software	E-Commerce Architect
Computer Software Engineers, Systems Software	E-Commerce Functional Architect
Computer Software Engineers, Systems Software	E-Commerce Project Manager
Computer Software Engineers, Systems Software	Embedded Software Diagnostics Engineer
Computer Software Engineers, Systems Software	ERP Architect
Computer Software Engineers, Systems Software	Infrastructure Architect
Computer Software Engineers, Systems Software	Java Server Engineer
Computer Software Engineers, Systems Software	Lead PeopleSoft Architect
Computer Software Engineers, Systems Software	Lead SAP Architect
Computer Software Engineers, Systems Software	Mainframe Specialist
Computer Software Engineers, Systems Software	Oracle Architect
Computer Software Engineers, Systems Software	PeopleSoft Architect

What Business Needs

St. Louis Regional Information Technology Labor Market Research

Jan-Mar 2008

Standard Occupation:	Monster Occupation:
Computer Software Engineers, Systems Software	SAP Architect
Computer Software Engineers, Systems Software	Security Architect
Computer Software Engineers, Systems Software	Siebel Architect
Computer Software Engineers, Systems Software	Software Engineer - Device Drivers
Computer Software Engineers, Systems Software	Sr. SAP Architect
Computer Software Engineers, Systems Software	Sr. ERP Architect
Computer Software Engineers, Systems Software	Sr. J. D. Edwards Architect
Computer Software Engineers, Systems Software	Sr. Oracle Architect
Computer Software Engineers, Systems Software	Sr. Product Integration Consultant
Computer Software Engineers, Systems Software	Systems Architect
Computer Software Engineers, Systems Software	Systems Programmer
Computer Software Engineers, Systems Software	Web Project Manager
Computer Software Engineers, Systems Software	Web Reporting Developer
Computer Specialists, All Other	Web Architect
Computer Specialists, All Other	Webmaster
Computer Support Specialists	Help Desk Analyst
Computer Support Specialists	Help Desk Manager
Computer Support Specialists	Help Desk Representative
Computer Support Specialists	IT Help Desk Clerk
Computer Support Specialists	PC Specialist
Computer Support Specialists	Sr. Desktop Technical Analyst
Computer Support Specialists	System Security Technician - External
Computer Support Specialists	Technical Support Consultant
Computer Support Specialists	Technical Support Representative - Entry Level
Computer Support Specialists	Technical Support Specialist
Computer Systems Analysts	Accounting Systems Coordinator
Computer Systems Analysts	AIX Systems Administrator
Computer Systems Analysts	Applications Design Analyst
Computer Systems Analysts	Applications Development Manager
Computer Systems Analysts	Billing Systems Analyst
Computer Systems Analysts	Business Systems Analyst
Computer Systems Analysts	Business Systems Design Analyst
Computer Systems Analysts	Business Systems Manager
Computer Systems Analysts	Call Center Technical Analyst
Computer Systems Analysts	Computer Lab Manager
Computer Systems Analysts	Human Resources Information Systems Analyst
Computer Systems Analysts	Human Resources Information Systems Consultant
Computer Systems Analysts	Human Resources Information Systems Specialist
Computer Systems Analysts	Information Specialist
Computer Systems Analysts	Information Systems Shift Supervisor
Computer Systems Analysts	IT Operations Support Analyst
Computer Systems Analysts	IT Strategy Consultant
Computer Systems Analysts	Lead Programmer Analyst

What Business Needs

Standard Occupation:	Monster Occupation:
Computer Systems Analysts	Network Engineering Manager
Computer Systems Analysts	Oracle System Administrator
Computer Systems Analysts	PC Technician
Computer Systems Analysts	PeopleSoft Systems Administrator
Computer Systems Analysts	Process Analyst - Information Systems
Computer Systems Analysts	Programmer Analyst - Consulting
Computer Systems Analysts	SAP System Administrator
Computer Systems Analysts	Software Quality Assurance Analyst
Computer Systems Analysts	Sr. Human Resources Information Systems Analyst
Computer Systems Analysts	Sr. Network Infrastructure Engineer
Computer Systems Analysts	Sr. Programmer Analyst - Consulting
Computer Systems Analysts	Sr. Systems Analyst
Computer Systems Analysts	Systems Analyst
Computer Systems Analysts	UNIX Operations Analyst
Computer Systems Analysts	UNIX Operations Support Analyst
Computer Systems Analysts	Usability Testing Engineer
Computer Systems Analysts	Visual Basic Programmer
Computer, Automated Teller, and Office Machine Repairers	Client Service Specialist
Computer, Automated Teller, and Office Machine Repairers	Office Machine Technician
Computer, Automated Teller, and Office Machine Repairers	Workstation Technician
Data Entry Keyers	Data Entry Clerk
Data Entry Keyers	Data Entry Operator - Sales
Data Entry Keyers	Data Entry Operator I
Data Entry Keyers	Data Entry Operator II
Data Entry Keyers	Data Entry Operator III
Data Entry Keyers	Human Resources Information Data Specialist
Database Administrators	Database Administrator
Database Administrators	Database Analyst
Database Administrators	Database Architect
Database Administrators	Database Manager
Database Administrators	Database Specialist
Database Administrators	Oracle Database Administrator
Database Administrators	Oracle Database Architect
Database Administrators	SQL Database Analyst
Database Administrators	SQL Server Database Administrator
Database Administrators	Sr. Database Administrator
Database Administrators	Sr. Oracle Database Administrator
Database Administrators	Sybase Database Administrator
Database Administrators	System Security Technician
Database Administrators	Systems Security Specialist
Network and Computer Systems Administrators	Cisco Network Engineer
Network and Computer Systems Administrators	Disaster Recovery Analyst

What Business Needs

Standard Occupation:	Monster Occupation:
Network and Computer Systems Administrators	E-mail Administrator
Network and Computer Systems Administrators	Exchange Administrator
Network and Computer Systems Administrators	Hardware Installation Manager
Network and Computer Systems Administrators	HP-UX Systems Administrator
Network and Computer Systems Administrators	Lead Network Infrastructure Technician
Network and Computer Systems Administrators	Lead Technical Support Engineer
Network and Computer Systems Administrators	Linux Systems Administrator
Network and Computer Systems Administrators	Network Administrator
Network and Computer Systems Administrators	Network Analyst
Network and Computer Systems Administrators	Network Console Operator
Network and Computer Systems Administrators	Network Operations Manager
Network and Computer Systems Administrators	Network Technician
Network and Computer Systems Administrators	Novell System Administrator - Network
Network and Computer Systems Administrators	Operations Technician - Insurance
Network and Computer Systems Administrators	Security Administrator
Network and Computer Systems Administrators	Sr. Network Administrator
Network and Computer Systems Administrators	Sr. Systems Administrator
Network and Computer Systems Administrators	Sr. Technical Support Engineer
Network and Computer Systems Administrators	Sr. UNIX Administrator
Network and Computer Systems Administrators	System Security Analyst
Network and Computer Systems Administrators	Systems Administrator
Network and Computer Systems Administrators	Systems Director
Network and Computer Systems Administrators	Technical Support Engineer
Network and Computer Systems Administrators	Technology Manager
Network and Computer Systems Administrators	UNIX Administrator
Network and Computer Systems Administrators	Web System Administrator
Network and Computer Systems Administrators	Windows Systems Administrator
Network Systems and Data Communications Analysts	Call Center Test Project Manager
Network Systems and Data Communications Analysts	Lead Network Consultant
Network Systems and Data Communications Analysts	Lead Network Design Engineer
Network Systems and Data Communications Analysts	Management Information Services Director
Network Systems and Data Communications Analysts	Network Consultant
Network Systems and Data Communications Analysts	Network Engineer
Network Systems and Data Communications Analysts	Network Firewall Security Analyst
Network Systems and Data Communications Analysts	NT Systems Administrator
Network Systems and Data Communications Analysts	Solaris Administrator
Network Systems and Data Communications Analysts	Sr. LAN Analyst
Network Systems and Data Communications Analysts	Sr. Network Consultant
Network Systems and Data Communications Analysts	Sr. Network Engineer

What Business Needs

Standard Occupation:	Monster Occupation:
Network Systems and Data Communications Analysts	System Security Lead
Network Systems and Data Communications Analysts	System Security Manager
Network Systems and Data Communications Analysts	Telecommunications Systems Director
Operations Research Analysts	Clinical Data Specialist
Operations Research Analysts	Data Warehouse Business Consultant
Operations Research Analysts	Materials Analyst
Operations Research Analysts	Materials Supervisor
Operations Research Analysts	Operations Analyst - Manufacturing
Operations Research Analysts	Re-Engineering Methods Analyst
Operations Research Analysts	Sr. Data Warehouse Business Consultant
Telecommunications Equipment Installers and Repairers, Except Line Installers	Cell Site Technician
Telecommunications Equipment Installers and Repairers, Except Line Installers	Central Office Power Installer
Telecommunications Equipment Installers and Repairers, Except Line Installers	Central Office Switch Technician
Telecommunications Equipment Installers and Repairers, Except Line Installers	Central Office Technician
Telecommunications Equipment Installers and Repairers, Except Line Installers	DSL Installer
Telecommunications Equipment Installers and Repairers, Except Line Installers	Fiber Optics Installer
Telecommunications Equipment Installers and Repairers, Except Line Installers	PBX Installer
Telecommunications Equipment Installers and Repairers, Except Line Installers	Switching and Transmission Engineer
Telecommunications Equipment Installers and Repairers, Except Line Installers	Telecommunications Analyst
Telecommunications Equipment Installers and Repairers, Except Line Installers	Telecommunications Service Tester
Telecommunications Equipment Installers and Repairers, Except Line Installers	Telecommunications Site Acquisition Specialist
Telecommunications Equipment Installers and Repairers, Except Line Installers	Telecommunications Site Switch Technician
Telecommunications Equipment Installers and Repairers, Except Line Installers	Telecommunications Specialist
Telecommunications Equipment Installers and Repairers, Except Line Installers	Telecommunications Technician
Telecommunications Equipment Installers and Repairers, Except Line Installers	TV Repair Technician
Telecommunications Line Installers and Repairers	Cable Service Technician

Disclaimer

This report (the "Report") and the data and information contained in this Report are provided as is by Monster Worldwide, Inc. ("Monster"). Information contained in this Report does not purport to be complete and is subject to various qualifications and based on various assumptions, not all of which may be set forth fully in this Report. Monster does not guarantee the accuracy, adequacy, completeness or availability of any information contained in this Report and is not responsible for any errors or omissions or for the results obtained from the use of such information. THERE ARE NO EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE. In no event shall Monster be liable for any indirect, special or consequential damages in connection with use of the information contained in this Report.

© 2008 Monster Worldwide, Inc. All rights reserved. Any reproduction of this Report or redistribution of this information or any information contained in this Report except as provided in the Subscription Agreement regarding this Report is strictly prohibited.